

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

Applicant: Dovek et al.

NOV 3 2000

Assignee: Maxtor Corporation

Technology Center 2600

Title: MAGNETIC STORAGE DEVICE WITH FLUX-GUIDED
MAGNETORESISTIVE HEAD USING A PERPENDICULAR
RECORDING MEDIA (AS AMENDED)



Serial No.: 09/067,795

Filed: April 28, 1998

Examiner: Korzuch, W.

Group Art Unit: 2754

Atty. Docket No.: 3123-276

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

**PETITION FOR WITHDRAWAL OF RESTRICTION REQUIREMENT
UNDER 37 C.F.R. § 1.144**

RECEIVED
OCT 17 2000
TC 2700 MAIL ROOM

Dear Sir:

This Petition is filed under 37 C.F.R. § 1.144 to request that the outstanding restriction requirement be withdrawn.

I. FACTS

The captioned-application was filed on April 28, 1998. The original application contained claims 1-29, of which claims 1-16 were directed to a head and claims 17-29 were directed to a magnetic storage device.

A first Office Action was sent on April 29, 1999, in which claims 1-29 were examined. No restriction requirement was issued.

A first Response was sent on June 18, 1999, in which claims 30-60 were added. At this stage, claims 1-16 were directed to a head, and claims 17-60 were directed to a magnetic storage device.

A second Office Action was sent on October 12, 1999, in which a restriction requirement was issued. The Examiner asserted that Group I claims 1-16, 18, 19, 21-29, 31-33 and 42-60 were drawn to a flux-guided magnetic head (class 360, subclass 113), Group II claims 20 and 34-41 were drawn to details of the read circuitry (class 360, subclass 55+), and claims 17 and 30 were linking claims.

A second Response was sent on November 9, 1999, in which Applicant provisionally elected Group I with traverse and amended claims 1-16 to be directed to a magnetic recording system. Applicant pointed out that claims 17-60 were explicitly directed to a magnetic storage device, and therefore the Examiner's position that claims 18, 19, 21-29, 31-33 and 42-60 were drawn to a flux-guided magnetoresistive head was incorrect. Applicant also pointed out that claims 18, 19, 21-29, 31-33 and 42-60 depended from generic claims directed to a "magnetic recording system" (or "magnetic storage device") that recited elements such as "magnetic media" (or "magnetic storage media") and that no claims were directed solely to the circuitry. Applicant argued that although various dependent claims recited additional features of the circuitry, this did not justify a restriction requirement, and that the Examiner had failed to explain why these features had "separate utility" or "separate usability." Applicant also mentioned that MPEP § 806.05(d) states that "Care should always be exercised in this situation to determine if the several subcombinations are generically claimed."

A third Office Action was sent on January 21, 2000, in which the restriction requirement was amended. The Examiner asserted that Group I claims 1-16, 18, 19, 21-29, 31-33 and 42-60 were drawn to a flux-guided magnetic head of a magnetic recording system (class 360, subclass 113), Group II claims 20 and 34-41 were drawn to details of the read circuitry of a magnetic recording system (class 360, subclass 55+), and claims 17 and 30 were linking claims.

A third Response was sent on February 4, 2000, in which Applicant stated that it was not understood how the restriction requirement had been amended, and reiterated that Applicant had already provisionally elected Group I with traverse in the second Response.

A fourth Office Action was sent on April 26, 2000, in which the Examiner maintained the restriction requirement and withdrew claims 20 and 34-41 from further consideration as being drawn to a non-elected invention. The Examiner argued that since the restriction requirement was rewritten to state that the Group I claims are drawn to a flux-guided magnetoresistive head of a magnetic recording system, Applicant's argument that claims 1-16 are directed to a magnetic recording system was moot. The Examiner also argued that claims 17 and 30 were linking claims. The Examiner further argued that the head claims in Group I recite specific pole structure and location of the magnetoresistive element while the circuitry claims of Group II set forth particular detectors that are used.

A fourth Response was filed on May 22, 2000, in which claim 1 was amended to recite that the circuitry was adapted "to detect said substantially Lorentzian pulse shape," claim 17 was amended to recite the circuitry was adapted "to detect that said readback pulse has said substantially Lorentzian pulse shape," and claim 30 was amended to recite the circuitry "includes a detector designed to detect Lorentzian pulse shapes." In view of the Examiner's stated rationale that the circuitry of Group II set forth particular detectors that are used, and that the independent claims had been amended to recite particular detectors, for instance by amending claim 30 to rewrite claim 34 (from Group II) in independent form, Applicant stated that the amendments rendered the restriction requirement moot.

A fifth Office Action was sent on August 8, 2000, in which the Examiner withdrew claims 20 and 38-41 from further consideration as being drawn to a non-elected invention.

II. ARGUMENT

Claim 1 is directed to a magnetic recording system that includes a head, magnetic media, and circuitry. The head includes a magnetoresistive read element, a write element and a yoke. The circuitry is adapted to receive a readback pulse with a substantially Lorentzian pulse shape from the head and to detect the substantially Lorentzian pulse shape.

Claim 17 is directed to a magnetic storage device that includes magnetic media, a read element and circuitry. The read element includes a flux guide and a magnetoresistive element. The circuitry is adapted to receive a readback pulse having a substantially Lorentzian pulse shape from the magnetoresistive element and to detect that the readback pulse has the substantially Lorentzian pulse shape.

Claim 30 is directed to a magnetic storage device that includes magnetic storage media, a head and circuitry. The head includes a write element, a yoke, and a magnetoresistive read element. The circuitry is adapted for receiving readback pulses with substantially Lorentzian pulse shapes from said magnetoresistive read element and includes a detector designed to detect Lorentzian pulse shapes.

In Group II, claim 20 recites that the circuitry includes “means for filtering said readback signal so that said readback signal has a greater resemblance to an ideal Lorentzian pulse shape,” claim 38 recites that the circuitry includes “a high pass filter that receives said readback pulses and provides filtered readback pulses, which more closely resemble ideal Lorentzian pulse shapes than said readback pulses, to said detector,” claim 39 recites that the magnetic storage device “is devoid of a high pass filter between said magnetoresistive read element and said detector,” claim 40 recites that the magnetic storage device “is devoid of a differentiator between said magnetoresistive read element and said detector,” and claim 41 recites that the magnetic storage device “is devoid of signal processing circuitry between said magnetoresistive read element and said detector.”

The Examiner's rational for the restriction requirement is that "the circuitry claims of Group II set forth particular detectors that are used." (Office Action sent April 26, 2000). However, independent claims 1, 17 and 30 were amended (Response sent May 22, 2000) to include particular detectors, as evidenced by claim 30 being amended to rewrite claim 34 -- a Group II claim -- in independent form. Therefore, the Examiner's stated rational is no longer applicable.

In addition, the Examiner initially classified claims 17 and 30 as linking claims (Office Action sent October 12, 1999). However, given that independent claims 17 and 30 were subsequently amended to include particular detectors, it is unclear how or why claims 17 and 30 continue to be linking claims, particularly since claim 30 was amended to rewrite claim 34 in independent form and claim 34 was a Group II claim. On the other hand, if claims 17 and 30 are no longer linking claims, then the Examiner has not set forth the basis for the restriction requirement.

In addition, there must be a serious burden on the examiner if the restriction is required (M.P.E.P. § 803). Where the related inventions as claimed are shown to be distinct, the Examiner, in order to establish reasons for insisting upon restriction, must show by appropriate explanation one of the following: (A) separate classification thereof; (B) a separate status in the art when they are classifiable together; or (C) a different field of search (M.P.E.P. § 808.02). The Examiner has failed to establish a serious burden. For instance, the Examiner asserted that claims 20 and 34-41 were classified in class 360, subclass 55+ (Office Action sent October 12, 1999) before Applicant amended independent claims 1, 17 and 30 to include particular detectors (including amending claim 30 to rewrite claim 34 in independent form). Therefore, since the Examiner asserted that the particular detectors would require searching class 360, subclass 55+, and independent claims 1, 17 and 30 recite particular detectors, the Examiner has failed to set forth a different field of search for claims 20 and 38-41.

In addition, MPEP § 806.05(d) states that "Care should always be exercised in this situation to determine if the several subcombinations are generically claimed." Claims 20 and 38-41 are dependent claims. These so-called subcombinations are not generically claimed.

In addition, the Examiner has failed to explain how the Group I and Group II claims have separate utility. The Examiner merely states "In the instant case, invention I has separate utility such as in a disk or tape drive that does not require the specifics of the circuitry recited in Group II." (Office Action sent October 12, 2000). All dependent claims require specifics beyond their base claim. If this explanation were sufficient, all dependent claims could be deemed to have separate utility and subject to a restriction requirement. In fact, a restriction requirement could be issued for every claim in the case. Therefore, this explanation cannot sustain a restriction requirement.

In addition, the restriction requirement is confusing since, in Group I, claim 34 recites that the detector "includes means for detecting," claim 35 recites that the detector "is a class-4 partial response (PR4) detector," and claim 36 recites that the detector "is a peak detector." Claims 34-36 clearly recite further specifics regarding the detector -- the stated basis for separate utility of the Group II claims. Therefore, the Examiner's position is contradictory.

Accordingly, Applicant respectfully requests that the restriction requirement be overturned and claims 20 and 38-41 be reinstated.

Please charge any fee due under this Petition to Deposit Account No. 13-0016/276.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on September 29, 2000.

D. Sigmond

David M. Sigmond
Attorney for Applicant

9/29/00

Date of Signature

Respectfully submitted,

D. Sigmond

David M. Sigmond
Attorney for Applicant
Reg. No. 34,013
(303) 702-4132
(303) 678-3111 (fax)